

BPA F 6420.24

Electronic Form

**U.S. DEPARTMENT OF ENERGY  
BONNEVILLE POWER ADMINISTRATION  
TRANSMISSION BUSINESS LINE  
INTERCONNECTION STUDY REQUEST**

**WHO SHOULD FILE THIS APPLICATION:**

*Any customer expressing an interest in interconnecting generation. This application should be completed as soon as possible and returned to the BPA Account Executive in order to begin processing the request.*

**INFORMATION:**

*This application will be used by the Bonneville Power Administration to perform Preliminary and Detailed Interconnection Studies to determine the Interface requirements at the customer's Point of Interconnection. The applicant should attempt to fill in as much of the form as possible. The applicant will receive a preliminary estimate for the utility interface requirements that may be used in calculating the overall Project requirements.*

**OWNER/PROJECT SPONSOR INFORMATION**

Owner of Project	Project Sponsor
Company	Company
Contact	Contact
Mailing Address:	Mailing Address:
City/State/ 9 Digit Zip Code	City/State/ 9 Digit Zip Code
Phone Number	Phone Number

**PROJECT DESIGN/ENGINEERING ARCHITECT (As applicable)**

Company			
Mailing Address			
City	County	State	9 Digit Zip Code
Phone Number	Contact		

**ELECTRICAL CONTRACTOR (As applicable)**

Company			
Mailing Address			
City	County	State	9 Digit Zip Code
Phone Number	Contact		

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**GENERATOR DATA**

Manufacturer (If available)

Model:

**TYPE**

Synchronous

Induction

Phases:Single

Three

Frequency (Hz)

Rated Output:

Kilowatts

Kilovolt-Ampere

Rated Power Factor

%

Rated Voltage

Volts Rated Amperes:

Amps

Energy Source (Gas, Hydro, Wind, Co-Gen., Geothermal, etc.):

Plant Load (Auxiliaries)

kW

KVAR

Net Maximum Power to BPA

kW

KVAR

Operating Dates and Capacity:

kW

Date

Ultimate Output (Max.)

kW

Date

Estimated Peak and Energy Production (Ultimate Output)

January

peak kw

kwh

February

peak kw

kwh

March

peak kw

kwh

April

peak kw

kwh

May

peak kw

kwh

June

peak kw

kwh

July

peak kw

kwh

August

peak kw

kwh

September

peak kw

kwh

October

peak kw

kwh

November

peak kw

kwh

December

peak kw

kwh

**PROJECT LOCATION**

STATE

COUNTY

NEAREST COMMUNITY

TOWNSHIP

RANGE

SECTION

STREET ADDRESS

**DATE****SIGNATURE**

NAME (Please Print or Type)

TITLE

**\*\*ATTACH MAP SHOWING PROJECT BOUNDARIES AND SUBSTATION LOCATION \*\***

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**ELECTRICAL AND SYNCHRONOUS MACHINE INFORMATION**

**1. Electrical One-Line Diagram** of the generation Project that includes proposed protective relaying, breaker and switching arrangements, ground sources (zero sequence), ground resistance (Project to remote earth), and assumed line parameters for and Project tie lines.

**2. Shunt capacitors** associated with the Project for power factor correction.

		kV			kVars
<b>3. Step-up transformer</b> nominal voltage	[		kV/kV/(kV)], impedance	[	% @ MVA],
MVA rating(s)	[		MVA], the electrical configuration (e.g., delta-wye)	[	].
and taps and tap range	[				].

**4. Station service load** (both and kW and KVAR) and the type of load (e.g., 70% motors and 30% heating).

	kW	kVa	Load
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**5. The following machine data:**

	MVA	Machine base rating on which the data is on (for each unit)
	KV	Rated KV
	P.F.	Power factor of machine
	H	Inertia constant of the machine, MW-sec./MVA
	Ra	Armature resistance, pu
	Xd	Direct axis unsaturated synchronous reactance, pu
	Xq	Quadrature axis unsaturated synchronous reactance, pu
	X'd	Direct axis unsaturated transient reactance
	X'q	Quadrature axis unsaturated transient reactance
	X''d	Direct axis unsaturated subtransient reactance
	Xl	Stator leakage reactance
	T'do	Direct axis transient open circuit time constant, sec
	T'qo	Quadrature axis transient open circuit time constant, sec
	T''do	Direct axis subtransient open circuit time constant, sec
	T''qo	Quadrature axis subtransient open circuit time constant, sec
	P max	Maximum power output of the turbine in MW
	S(1.0)	Machine data at 1.0 per unit of rated voltage
	S(1.2)	Machine data at 1.2 per unit of rated voltage

**6. The type of exciter**, block diagram, and parameters in IEEE, PTI or WSCC format.

**7. The type of power system stabilizer**, block diagram and parameters in IEEE, PTI, or WSCC format.

**8. The type of governor and turbine**, block diagram and parameters in IEEE, PTI or WSCC format.

**9. The turbine frequency versus time** operation limits.

To be filled out by the BPA Transmission Account Executive:

Transmission Account Executive	Region
Internal Routing	Phone Number

Copy of Interconnection Study Request and Attachments to:

Transmission Planning Manager - TOP

System Protection Manager - TNC

Customer Service Engineering - TOC